

## **REMARKS**

Claims 19, 20 and 24-32 and 36-56 are in the Application. No claim is allowed. Claims 36 to 56 are supported at page 10, lines 24-31, which recites that the matrix may be mixed with other materials for use in bone growth or repair.

In the final rejection, claims 19, 26, and 36 are objected to due to certain informalities. Appropriate corrections have been made. Withdrawal of this objection is requested.

Claims 26-40 are rejected under 35 USC §112, first paragraph, as allegedly failing to comply with the written description requirement. This rejection is respectfully traversed. Claims 19, 26, and 36 now recite that the binder is cross-linked. This is clearly supported in the specification at page 8, lines 4-12 and 19. The fact that the minerals are immobilized within the matrix is supported at page 7, lines 9-10, page 9, lines 1-4 and 26-29, and page 10, lines 21-22. It is therefore respectfully requested that this rejection be withdrawn.

Claims 19, 20, 24, and 25 are objected under 35 USC §112, second paragraph, as allegedly being indefinite. Claim 19 has now been amended to clarify that it is the composition that is present in an amount effective to promote bone growth at a desired site of bone repair. Accordingly withdrawal of this rejected is requested.

Claims 19, 20, and 24 are rejected under 35 USC §102(e) as allegedly being anticipated by Silver *et al.* (Silver) of record. This rejection is respectfully traversed. The specification supports that the binder serves to bind the mineralized fibrillar collagen. See page 4, line 7. Silver's materials are only carriers which suspend the mineralized collagen fibers to form ointments, gels, gel creams or creams. See Silver, col. 2, lines 50-57. In addition, the binder in the present instance is cross-linked. Silver does not cross-link the carrier. Indeed, cross-linking Silver's carrier would apparently make the carrier inoperative or at least partially inoperative as a carrier. For the foregoing reasons it is submitted that Silver does not anticipate the claims and withdrawal of this rejection is requested.

Claim 25 is rejected under 35 USC §103(a) as allegedly being unpatentable over Silver in view of Rhee *et al.* (Rhee), US 5,264,214. This rejection is respectfully traversed and reconsideration is requested. The Examiner states that Silver teaches a matrix composition as claimed in claims 19, 20, and 24, except for teaching that the binder comprises collagen. Silver does not teach the use of a binder which binds the network of biopolymer. The component which the Examiner characterizes as a binder is a pharmaceutical carrier, does not serve the function of binding the biopolymer into a matrix. The Examiner further states that Rhee discloses a matrix composition e.g., a fibrillar cross-

linked collagen-PEG, which also comprises a binder. However, Applicant disagrees with this characterization. The "binder" cited by the Examiner in Rhee at column 7, lines 37-49 is a particulate material which is added to form a mixture with the collagen-PEG. The use of this particulate material is shown in column 20, lines 34-40, which is also cited by the Examiner. In column 20, lines 34-43, the collagen-PEG is mixed with the particulate material as a filler and lyophilized. Therefore, by combining the teachings of Silver and Rhee, apparently one would arrive at mineralized collagen (Silver) lyophilized with a particulate filler. The particulate filler, however, is merely a second component along with the biopolymer and does not serve as a binder to bind the network of biopolymers. Accordingly, even combining the references, one does not attain a water insoluble biopolymer network bound with a cross-linked binder. Accordingly, it is submitted that claim 25 is unobvious over the combination of references and withdrawal of the rejection is respectfully requested.

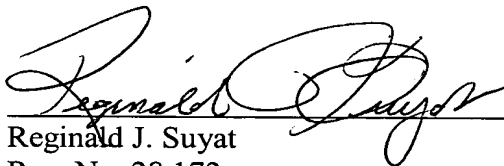
It is submitted that this application is in condition for allowance .

Respectfully submitted,

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